

TO Mike Lynthia

FROM

JEFFREY W. WINTER, P.E.  
Airport Engineer  
King County International Airport  
P. O. Box 80245  
Seattle, WA 98108  
(206) 296-7380 • Fax (206) 296-0190

SUBJECT  
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North End Soils

DATE

5-14-98

Attached is a copy of the results of the Phase 1 & 2 sampling work done on the north end soil piles from HHI site & Kihlstrom. Some of the results have high concentrations of heavy oils which won't aerate very well, so I recommend that we excavate the 2 grid areas with Olympus Env. present and truck the material to treatment in Tacoma. This could cost 300 Tons  $\times$  \$30 = \$9000 + \$1000 testing = \$10,000 if we do loading & trucking work (20 loads  $\pm$ ). The rest of the piles ~~we~~ we will till periodically through the summer, then seed ~~them~~ in the Fall & let stand until Spring 1999 when we till & test again.

After you have reviewed, let's meet to discuss what action we will take.

SIGNED

Jeff

SPEED-MEMO

KCSlip4 34964

SEA401509



May 6, 1998

Mr. Jeff Winter, PE  
King County International Airport  
PO Box 80245  
Seattle, WA 98108

**RECEIVED**

MAY 11 1998

KING COUNTY  
INTERNATIONAL AIRPORT

Re: **Sampling North Stockpiles  
Phase One  
Olympus WO# 07963 7704**

Dear Mr. Winter,

Please find the attached invoice for environmental sampling, Phase Two, of the north stockpiles located at King County International Airport.

#### **INTRODUCTION**

As requested in your memo Olympus completed Phase Two sampling on April 27, 1998. The 50-foot sampling grids established during Phase One were used to establish sample locations for this Phase Two.

#### **ENVIRONMENTAL SERVICES**

Olympus mobilized personnel and equipment to the sampling site for the sampling completion of Phase Two. Three point composite samples were collected using the established 50-foot sampling grid. Random grids were selected for each stockpile using the sampling frequencies requested in your memo and the sampling previously completed in Phase One.

The samples were labeled and submitted to Sound Analytical Services on a chain-of-custody form.

#### **ANALYTICAL RESULTS**

The analytical results for WTPH-D extended (heavy oils) indicate two-grid location of concern. The levels are above 1,000 and 4,000 parts per million (ppm) (sample numbers SP-2-4 and SP-5-3 respectively. Regulatory clean up levels for heavy oils (WTPH-D extended) is established at 200 ppm in *Model Toxic Cleanup Control Act Cleanup Regulations (MTCA) WAC173-340*. The sample results suggest that the soils should be excavated and disposed of through a local disposal company. Olympus recommends that field-testing (sheen test) to be performed for the sidewalls of the excavation for these two grids. A three point composite sample may be taken at the bottom of the excavations for clean up verification.

The sample results indicate the presence of gasoline range hydrocarbons (WTPH-G and BTEX) are below MTCA cleanup standards or non-detectable and are not of concern. Diesel range hydrocarbons (WTPH-D) results indicate four sample results are above MTCA cleanup levels of 200 ppm (sample numbers SP-2-A, SP-2-4, SP-2-7 and SP-5-3) You had indicated during our phone conversation on April 5, 1998, that the stockpiles would be "tilled" this summer. The four grids should be resample again prior to using the soils for fill, if required.

Analytical results for the remaining samples, with corresponding grid locations for each stockpile are attached.

#### **Environmental & Hazardous Waste Services**

Kent, WA    Billings, MT    Boise, ID    Helena, MT    Portland, OR    Spokane, WA

8647 S. 212th St. • Kent, WA 98031 • (253) 735-6625 • P.O. Box 1064 • Kent, WA 98035-1064

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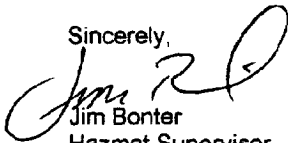
SEA401510

**STOCKPILE MAINTANANCE**

Olympus recommends further "tilling" of the remaining stockpiles. You had asked about hydro seeding the stockpiles during our phone conversation on May 5, 1998. Hydro seeding the stockpiles in September 1998 would assist with erosion control and migration of the any potential contamination present in the soils during the "rainy season". It is recommended that visqueen (plastic sheeting) be placed over the areas of concern as a migration control measure, against the possibility of rain.

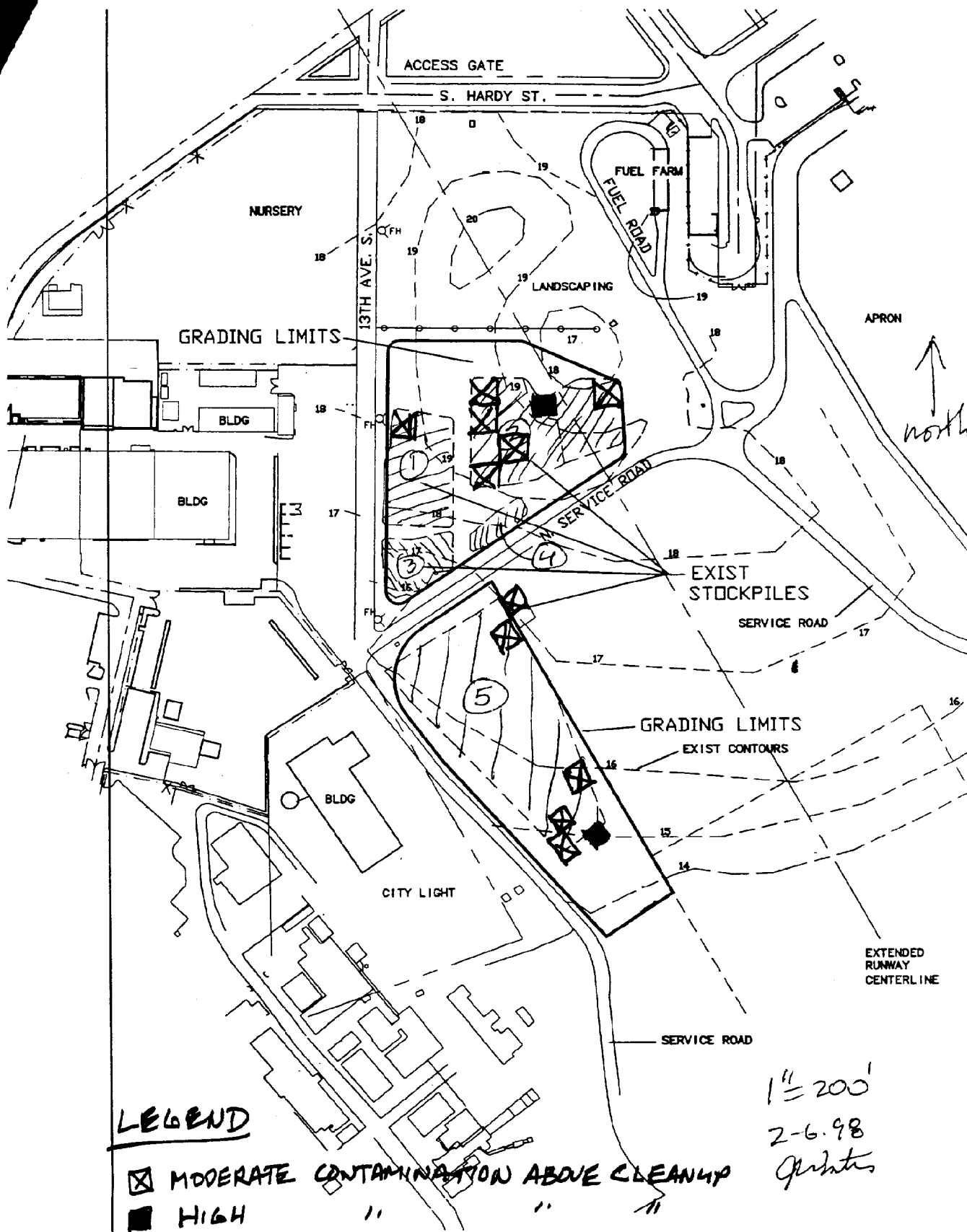
Olympus appreciates this opportunity to provide KCIA with environmental services, if you have any questions regarding this invoice or the work preformed please feel free to contact me at (253) 735-6625.

Sincerely,



Jim Bonter  
Hazmat Supervisor

Attachment



Olympus Environmental, Inc.
North Stockpiles
Sample Results Phase 1 & 2

**Sample Results Phase 1 & 2**

Phase 1					Phase 2				
Sample#	WTPH-D	D-EXT*	WTPH-G	BTEX	Sample#	WTPH-D	D-EXT*	WTPH-G	BTEX
SP 1-A	49	N/A	ND	ND	SP 1-1	170	620	22	ND
SP 1-B	140	N/A	ND	ND	SP 1-2	100	450	5.6	ND
SP 1-C	100	N/A	ND	ND	SP 2-1	170	110	180	ND
SP 2-A	320	N/A	13	ND	SP 2-2	74	310	15	ND
SP 2-B	73	N/A	9.8	ND	SP 2-3	120	120	88	ND
SP 2-C	31	N/A	ND	ND	SP 2-4	210	1100	10	ND
SP 2-D	19	N/A	ND	ND	SP 2-5	39	100	13	ND
SP 3-A	39	N/A	ND	ND	SP 2-6	35	84	11	ND
SP 3-B	150	N/A	8.2	ND	SP 2-7	240	640	32	ND
SP 4-A	15	N/A	ND	ND	SP 2-8	140	930	10	ND
SP 4-B	27	N/A	ND	ND	SP 3-1	24	140	ND	ND
SP 5-A	36	N/A	ND	ND	SP 3-2	28	120	ND	ND
SP 5-B	47	N/A	ND	ND	SP 5-1	47	540	2.4	ND
SP 5-C	21	N/A	ND	ND	SP 5-2	71	450	ND	ND
SP 5-D	31	N/A	ND	ND	SP 5-3	830	4000	2.8	ND
SP 5-E	16	N/A	ND	ND	SP 5-4	31	190	3	ND
SP 5-F	ND	N/A	ND	ND	SP 5-5	28	170	ND	ND
SP 5-G	17	N/A	ND	ND	SP 5-6	47	230	ND	ND
					SP 5-7	78	430	ND	ND
					SP 5-8	32	190	ND	ND
					SP 5-9	28	190	ND	ND
					SP 5-10	100	550	ND	ND

ND - NONE De  
N/A NOT AVAILABLE on Request

D-EXT- WTPH-D Extended  
All results in parts per million

KCIA Sample Grid  
 STOCKPILE #1  
 JOB # 7704  
 # 7663  
 STOCKPILE #1

OLYMPUS ENVIRONMENTAL INC  
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NOT TO SCALE  
 N  
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SP-1-A	SP-1-B		
SP-1-1 620-HO		SP-1-C	SP-1-2

STOCKPILE #2

N

SP-2-1 180-G		SP-2-4 210-D 110-HO	SP-2-8 930-HO
SP-2-7 640-HO		SP-2-5	SP-2-B
	SP-2-A 320-D		SP-2-C
SP-2-2 310-D		SP-2-6	SP-2-D

KCIA  
STOCK PILE Sample Grid.  
Job # 7704  
# 7663

Olympus Environmental, Inc  
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NOT TO SCALE

Stock pile # 3

SP-3-1	SP-3-2
SP-3-A	SP-3-B

OK

N

Stock pile # 4

SP-4-A	SP-4-B
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OK

KCIA

Stockpile Sample Grid

JOB # 7204  
# 7663

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NOT TO SCALE

Stockpile # 5

SP-5-8	SP-5-A		SP-5-B	SP-5-10 550-HO
SP-5-6	SP-5-9		SP-5-7 430-HO	
		SP-5-C		
SP-5-E				
	SP-5-F		SP-5-D	
SP-5-4		SP-5-5		
			SP-5-6 230-HO	
	SP-5-2 450-HO			
SP-5-1 540-HO		SP-5-3 830-D 4000-HO		

↑  
north